



After the Fact | Why Didn't the Elk Cross the Road?

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TRANSCRIPT

Matt Skroch, project director, U.S. conservation, The Pew Charitable Trusts:

The very thing that facilitates our convenience in getting from point A to point B is the thing that is an obstacle for many wildlife.

Michael Dax, western program director, Wildlands Network: I have not been involved in a collision with any large game, but I've come close, and even coming close kind of leaves a mark on you.

Patricia Cramer, founder, Wildlife Connectivity Institute: I'm concerned about how animals move on the landscape and how we can help them stay connected.

Dan LeDuc, host, "After the Fact" podcast: Welcome to "After the Fact." For The Pew Charitable Trusts, I'm Dan LeDuc.

There's something iconic about the vast landscape of the American West—the wide-open skies, rugged mountains, and seemingly endless stretches of land. Part of that scene are herd animals like elk, deer, and pronghorn that move across that land for hundreds of miles, following the same migratory routes their ancestors have used for generations.

But today, their journeys run up against human-made barriers like fences, housing developments, and highways. And that's become a big problem. As animals try to cross the road, they are getting hit by cars.

These accidents don't just endanger wildlife, they also put human lives at risk. According to the Federal Highway Administration, between 1-2 million large animals are struck by vehicles in the U.S. each year, causing approximately 200 human deaths. And as modern development continues to expand and disrupt habitats, people and animals could find themselves more at odds than ever before.

But a growing number of states are tackling this problem head-on. Wildlife managers, transportation officials, and other groups are teaming up to build wildlife crossings. These structures include highway bridges and underpasses that allow animals to safely cross the road.

Matt Skroch leads Pew's work to promote these crossings and tells us more.



Matt Skroch: I'm going to use a big term, phenology. But really what it is, is the cycles and seasons of our world. And how animals and plants adapt and change as a result of how those cycles and seasons change.

The arctic tern—it's a really interesting example. The arctic tern weighs about the same size as your carry-on shampoo bottle. Literally 3 1/2 ounces. And this tiny little bird flies 50,000 miles every year from the Arctic Circle to the Antarctic and back. Every season, spring and fall. They actually always live in summer.

And they need that light to forage. And that's why they migrate. And it's the same basic story with any other type of migration, whether we're talking about whales or even dragonflies.

Today with changes in our environment, that timing, those cycles are getting scrambled.

In the United States, we have an incredible natural history of migrating ungulates—hooved animals. And we're talking about our nation's deer, elk, and the fastest animal in North America: the pronghorn. These are large animals. In the summer, when it's warm or hot, where would you want to be?

Dan LeDuc: Where it's cooler.

Matt Skroch: Somewhere where it's cooler, somewhere where it's shadier, but of course, if you're living up in the mountains and in the West, what happens in the fall and the winter?

Dan LeDuc: It's chilly and there's snow.

Matt Skroch: Exactly, so what do we do? We go downslope. We go downhill. We go into these lower valley locations where it's warmer. There's usually less snowpack, and you can scratch out a living for a couple of months during that winter.

And it's really fascinating in the spring; there's a little bit of a different dynamic. Because as things warm up, that warmer weather starts lower, and that's where all the green new shoots and growth starts, and they actually follow that trail. You can imagine week after week as it gets warmer, that phenology of plant growth moves upslope. They're looking for the newest, freshest greens possible.

And that migration will take them on a 150-mile journey across rivers and streams, over fences, around houses, avoiding people's dogs in the backyard. And it can really capture our imagination to think of a herd of 5,000 mule deer traveling from the



Red Desert of southwest Wyoming up to near Teton National Park. It truly is a remarkable journey.

Dan LeDuc: And while these animals are doing what they've done for thousands of years, they're running into things we have built that didn't used to be there, like houses and roads. Tell us more about that.

Matt Skroch: There's a whole world of human wildlife conflict all the way down to bear-proof trash cans in our campgrounds. Or trained dogs that guard a flock of sheep from wolves in Montana. But this issue, wildlife on roadways, is one example of that. With these GPS collars we have really precise inference now into how and where and when these animals are using space and time.

And we can combine that with this crash data that we now have, these wildlife vehicle collisions that are occurring, and we can often pinpoint relatively precise locations, mile markers on roads and highways, and say, there's the problem. The good news is we have a solution as well. And they're called wildlife crossings.

These are actually bridges and underpasses that are designed and built, believe it or not, to facilitate the passage of wildlife. It might just look like a regular bridge, but instead of pavement and lines on it, it's got dirt and boulders and plants.

Dan LeDuc: It's kind of ironic, right? Things that make our lives easier are making animals' lives harder.

Matt Skroch: The very thing that facilitates our convenience in getting from point A to point B is the thing that is an obstacle for many wildlife. In the rural United States, this is a very common problem. Many collisions, actually, in rural, remote areas can be attributed to wildlife-vehicle collisions. It's bad for people. People are getting hurt or even dying. It's a strain on public resources responding to emergencies. There's a lot of costs that go into it.

Dan LeDuc: Do we have data on what those accidents cost?

Matt Skroch: We do. Hitting a mule deer can cost up to about \$10,000. Hitting an elk is going to be more expensive, more damage to your vehicle, and more likelihood of physical injury. And then moose are the heaviest and largest. And so, we can see costs approaching \$50,000 on average per collision with a moose.

And, in these areas in which we have a high prevalence of accidents, there might be a hundred accidents a year, and many of them go unreported. So, it's actually underreported, but this is a billion-dollar-plus problem in the United States for sure.



Most people have some personal story of almost hitting an animal, of hitting an animal, or having a family member hit an animal. I've hit an animal before on a rural road. They have a real visceral understanding of the problem and the need, and so when that solution is shown to a community, what we see is a lot of interest and support for them.

Dan LeDuc: Michael Dax is the western program director at the Wildlands Network, a nonprofit dedicated to conserving and connecting habitats. He has spent his career thinking about how wild animals move across mountain ranges, deserts, and highways.

Michael Dax: The first overpass in the country is near Beaver, Utah, on I-15. It was built in 1975 and over the past 10 and even 20 years, it's really caught on, especially the Western United States. Both more conservative states, as well as more liberal states. Big support from the sportsman's community. It's still very much part of our cultural fabric here. I'll just say for where I live in southern Colorado, there are thousands of out-of-state hunters that come in every year, support the local economy.

Wyoming is where a lot of this research, uncovering and discovering large migratory routes, first got its start. And I-80 is a significant barrier for pronghorn and mule deer especially. And across the West, mule deer are slowly declining.

Oftentimes, they're trying to reach lower elevation, get away from those big snows. And between I-80, as well as barbed wire fencing, you have pronghorn, especially piling up and dying en masse. The more that we could do to restore habitat, increase permeability, and reduce fragmentation, the more successful that wildlife managers can be in building back those herds.

Dan LeDuc: And building more crossings could help?

Michael Dax: We've seen major investments in wildlife crossings because it's an issue that appeals to a lot of different people from a lot of different directions. And we're just seeing more and more wins for wildlife, which is really great.

If you're driving along and you pass under an overpass, there's a good chance if you're spaced out enjoying the scenery that you might not realize that there's no road that actually goes over that bridge. They are landscaped so that it mimics natural habitat.

Dan LeDuc: And it's not just the Western U.S. where this kind of work is happening, right? I mean, even the smallest creatures can benefit from crossings. I've heard of one project in Virginia that helped spotted salamanders safely make their way under the road by guiding them through culverts.



Michael Dax: The most common structures are underpasses, often because they're using existing underpasses, like bridges over rivers or streams. When we're in legislative situations, we have legislators asking how do the animals know to use the crossings that you've built for them? And it's like, well, you usually have fences for a couple miles on either side of those crossings that are directing animals to use them.

There's also a width that matters. If you are a wild animal, generally about 100 feet wide is preferred, especially for elk. There's an overpass in Utah on I-80, and they made that bridge somewhat narrow. And so, they've had every animal cross over that bridge, including moose and black bears, but they haven't had elk. And in that case, elk appear to be a little bit more sensitive to an overpass being too narrow. This is a place where I think wildlife managers are continuing to learn how best to do this, how to do the revegetation, and what features are needed in order to maximize effectiveness for as many species as possible.

Dan LeDuc: And this is happening in other states, right? I hear New Mexico is one of them.

Michael Dax: Yes, in 2019 New Mexico passed the Wildlife Corridors Act. It was the first bill of its kind throughout the country that directed New Mexico Game and Fish and New Mexico DOT to develop a Wildlife Corridors Action Plan. Prior to that plan, the DOT had completed nine crossing projects throughout the state, and almost all those projects were dictated by other road work: lane widening, repaving, as opposed to the needs of wildlife.

Dan LeDuc: It's also a place where Michael Dax and wildlife biologist Patricia Cramer have spent time working on the ground.

Patricia Cramer: I'm a scientist, and I've been doing it for decades, like my fourth decade or fifth. I don't even want to count. And I'm starting to realize in my later part of my life is that science is great. But there needs to be this extra step of taking it and making it happen.

Dan LeDuc: Cramer led a collaborative, landmark effort with engineers, field ecologists, and staff from both the state's Department of Transportation and Game and Fish Department.

Patricia Cramer: So I work at a nexus rather than the strictly the scientific side. I do work with departments of transportation and go to engineers' conferences and say, look, this is what you should be concerned about.

Dan LeDuc: Can you tell us more about how you used things like crash data to help recommend where crossings should go, and what would work best?



Patricia Cramer: New Mexico said, OK, we're going to put a half a million dollars up to get this action plan going. There's some technical work like GIS work, geographic information systems, where we model crash data. Then there's systems that model wildlife movement. Then there's going out in the field with field ecologists that understand what kinds and sizes structures work. So, I brought all these people together along with a couple of engineers, and there's 15 of us that worked on this project, all bringing in our knowledge together to come up with the plan.

Michael Dax: They put together what is a 700-page document and identified 11 priority safe passage projects. Five of them were based on wildlife-vehicle collisions, and six of them were based on the needs of wildlife movement. Thinking about these projects from a wildlife perspective versus a transportation perspective.

If we're going to go do a camera project, or even a collaring project, we can have the idea, get the funding, and in six months, we could go do the project. Transportation projects take a long time to plan and are inherently expensive.

And so, when we hear numbers like 20 million dollars, from a wildlife perspective, yeah, that's a really expensive project. From a transportation project. That is just what things cost in the transportation world. As advocates for these sort of projects, we have to adjust as we're talking to legislators and other decision-makers.

Over the past few years, we've had \$12 million appropriated by New Mexico to implement the plan. So they're in the process of doing all the engineering and implementing its number one priority project, which is on U.S. 550 north of Cuba, New Mexico, and hoping to break ground on that project in 2026. So we've been really happy to see us go from bill to action plan to now implementing one of those projects. It's been a really great process to watch unfold.

Dan LeDuc: Does New Mexico offer lessons for other places that want to try to tackle this issue?

Michael Dax: A lot of different states are going at it in different ways, all of which are pretty good. California just passed some legislation that requires DOT to consider wildlife when doing initial planning. I do think that the plan that they put together seeking public input was really a good one. I've seen other states where the process might be a little less publicly facing. I think you still end up with good projects, but the public element has been really strong in New Mexico.

Dan LeDuc: So do you think in the perfect planning stages that as a new road is planned that, the connectivity issues we've been talking about start becoming a natural part of the planning?



Michael Dax: Yes, absolutely. Our vision, our goal, is to change how transportation planning is done. Right now, we're in this place where we're retrofitting roads that were built 50, 60, 100 years ago and trying to make them more wildlife-friendly. Long term, we'd like to see wildlife considerations baked into the process of transportation.

Patricia Cramer: I can tell you over and over again in my work in every state. It's really possible to have a ground-level baseline group of people making it happen.

Michael Dax: When we think about the American West and we think about the place that it holds in the American imagination, wildlife is central to that story. The idea that we're able to create and maintain a landscape that can support those species on the scale that they need to be supported is integral to what the American West has been, and what I think so many of us want it to continue to be.

Matt Skroch: We didn't have this 20 or 30 years ago. Today we have the insights and the science to really solve the problem. And that's why our team and others are just so focused on letting people know that there's a solution that exists. You got to put some skin in the game, usually with some money, you're going to get less accidents, better wildlife populations, and oh, you're going to save money in the long term.

Dan LeDuc: And since our first conversation with Michael Dax, there's good news to share out of New Mexico.

Michael Dax: We actually secured 50 million in the budget, which is the most a state legislature has appropriated to wildlife crossings outside of California.

Dan LeDuc: Thanks for listening. To hear more episodes like this, visit www.pewtrusts.org/afterthefact. And please, leave us a review wherever you listen to podcasts. We'd love to hear your thoughts. For The Pew Charitable Trusts, I'm Dan LeDuc, and this is "After the Fact."